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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,306	06/22/2001	Marufur Rahim	1929.EEM	9554

7590 10/14/2003  
Charles W. Almer  
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EXAMINER

WILLS, MONIQUE M

ART UNIT PAPER NUMBER

1746

DATE MAILED: 10/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No. .

09/888,306

Applicant(s)

RAHIM ET AL.

Examiner

Wills M Monique

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement(s) filed February 13, 2002 and December 9, 2002 has/have been received and complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 .

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaltenbach et al. U.S. Patent 4,263,352.

Kaltenbach an aqueous dispersion coating composition (abstract) comprising an epoxy resin (col. 7, line 35), carbon black (col. 7, line 31) and a crosslinking agent (col. 3, lines 48-51). The coating has a minimum conductivity of 3 ohms/cm<sup>2</sup> (col. 10, lines 40-50). The coating material inherently has a resistance of not more than twice the initial value after exposure to a 40% KOH solution for a period of 72 hours at 80°C.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hazan et al. U.S. Patent 4,042,478.

Hazan teaches an aqueous dispersion coating composition (abstract) comprising an epoxy ester (abstract), carbon black (col. 6, line 51) and a crosslinking agent (abstract). The coating has a minimum conductivity of 3 ohms/cm<sup>2</sup> (col. 10, lines 40-50). The coating material inherently has a resistance of not more than twice the initial value after exposure to a 40% KOH solution for a period of 72 hours at 80°C.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Savin U.S. Patent 5,677,367 in view of Taylor et al. U.S. Patent 6,395,459.

Savin teaches a graphite-containing composition to be dispersed as cathodic coatings (col. 16, lines 60-68). The coating comprises 20 to 30% of an epoxy resin (col.11, lines 35-45) and 10-15 % graphite (col.11, lines 35-45) and a crosslinking agent (col. 15, lines 20-35). The coating has a minimum conductivity of 3 ohms/cm<sup>2</sup> (col. 10, lines 40-50). The coating material inherently has a resistance of not more than twice the initial value after exposure to a 40% KOH solution for a period of 72 hours at 80°C.

The reference is silent to cross-linking agents comprising melamine.

Taylor teaches that it is conventional to employ cross-linking agents such as melamine in coating dispersions to promote improved adhesion (col. 9, lines 50-68 and col. 4, lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the melamine cross-linking agent of Taylor in the coating dispersion of Savin in order to improve adhesion of the coating.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-20 & 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Savin U.S. Patent 5,677,367 as applied to claim 1 above, in view of Binns et al. U.S. Patent 6,287,377 and further in view of Anderson et al. U.S. Patent 6,610,777.

Savin teaches a graphite-containing composition to be dispersed as cathodic coatings (col. 16, lines 60-68). The coating comprises 20 to 30% of an epoxy resin (col.11, lines 35-45) and 10-15 % graphite (col.11, lines 35-45) and a crosslinking agent (col. 15, lines 20-35). The coating has a minimum conductivity of 3 ohms/cm<sup>2</sup> (col. 10, lines 40-50). The coating dispersion may also include a wetting agent and curing agent in the amount of 0.5 to 1.5% (col. 16, lines 40-45). A surfactant may be present in an amount less than 0.5 % of the dry coating (col. 8, lines 50-60). The graphite is present as a proportion of the binder at 33-59% (Examples 1-13). The dispersion may also include a catalyst (col. 15, lines 55-65).

Savin does not expressly disclose the ratio of graphite to binder as 1 to 6, viscosity of the coating or thickness of the coating. The reference is silent to a sulfonic acid catalyst, styrene acrylic component or a energy storage device including a fuel cell or capacitor containing the coating.

Anderson teaches that it is conventional to employ para-toluene sulfonic acid catalyst in coating dispersion in order to accelerate the reaction between the reactive components of the coating composition (col. 28, lines 45-60).

Binns teaches that acrylic and styrene may be added to the thicken coating dispersion (col. 8, lines 15-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ para-toluene sulfonic acid catalyst in the coating dispersion of saving in order to accelerate the reaction between the reactive components of the coating composition as taught by Anderson.

Regarding adding styrene and acrylic to the coating dispersion, it would have been obvious to employ said components to thicken the coating agent to the consistency desired.

Regarding the viscosity of the coating, it would be reasonable to expect that the viscosities of Savin and the subject invention are the same as the compositions of the coating dispersions are the same.

Regarding the graphite to binder ratio and thickness of the coating, It would have been obvious to employ the instant ratio, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The skilled artisan recognizes that the ratio of conductive graphite to binder directly affects the conductivity of the coating dispersion. As to the thickness, the skilled artisan recognizes that the thickness of the coating directly affects the structural integrity of the protective coating.

As to employing the coating in energy devices including fuel cells or capacitors, It would have been an obvious matter of design choice to employ the coating in said energy devices, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level

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of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955). Further, Savin teaches that the coating dispersion may be used as a protective coating on cathodes. Cathodic material is a common component in energy storage devices such as fuel cells and capacitors. Therefore, the skilled artisan would be motivated to choose said energy devices.

### ***Conclusions***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Taylor et al. U.S Patent 6,395,459 teaches a method of forming a protective overcoat for imaged elements and related articles.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (703) 305-0073. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Randy Gulakowski, may be reached at 703-308-4333.



Application/Control Number: 09/888,306

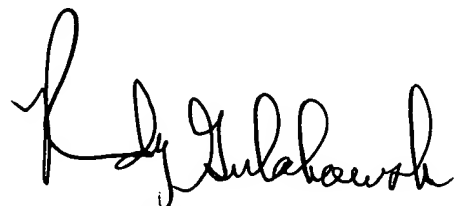
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The unofficial fax number is (703) 305-3599. The Official fax number for non-final amendments is 703-872-9310. The Official fax number for after final amendments is 703-872-9311.

Mw

09/04/03

A handwritten signature in black ink, appearing to read "Randy Gulakowski". The signature is fluid and cursive, with a large initial "R" and "G".

RANDY GULAKOWSKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700